



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION 10**  
1200 Sixth Avenue  
Seattle, WA 98101

April 11, 2005

Reply to  
Attn Of: ECL-116

**MEMORANDUM**

**SUBJECT:** Review of JCI Jones Chemical Letter Dated February 17, 2005  
RE: Docket# CAA-10-2005-0067

**FROM:** Harry Bell  
RMP Specialist

**TO:** Kelly Huynh  
US EPA Region 10 RMP Coordinator

I have reviewed the JCI Jones Chemical letter and supporting documentation dated February 17, 2005. The JCI letter requests dismissal of the Expedited Settlement Agreement (ESA) [referenced above] based on their assumption that the documentation provided in the letter of February 17, 2005 demonstrates compliance with the portions of 40 CFR Part 68 cited in the ESA.

My findings are by specific deficiencies, as follows:

**Hazard Assessment<sup>1</sup>**

The deficiencies cited in the ESA were all related to the selection and off-site consequence analysis of the Alternative Release Scenario.

The Alternative release scenario analysis is used to identify the potential reach and effect of hypothetical accidental releases under more realistic circumstances than the Worst

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<sup>1</sup> United States Environmental Protection Agency, "General Guidance On Risk Management Programs For Chemical Accident Prevention (40 CFR Part 68)," EPA-550-B-04-001, April 2004. CHAPTER 4: OFFSITE CONSEQUENCE ANALYSIS, pp. 4-13 thru 4-15.

Case Scenario. The Owner/Operator (O/O) must identify and analyze reasonable release scenarios that are more likely to occur than worst-case release scenarios and that reach an off-site endpoint, unless no such scenario exists. The scenarios must be "reasonable and defensible". The O/O does not need to demonstrate greater likelihood of occurrence or carry out any analysis of probability of occurrence; they only need to use reasonable judgment and knowledge of the process.

JCI concluded in their letter dated 2/17/05 that "... alternative release scenarios were selected. Based on this analysis, no such scenario existed that resulted in a release that would reach an endpoint offsite [which 58.28(b)(1)(ii) does allow for]." JCI rejected reasonable and defensible scenarios identified in their PHA on the basis that the scenarios described had little "Likelihood of Occurrence". As a result:

JCI did not select a scenario that would reach an endpoint off-site [68.28(b)(1)(ii)] and the deficiency remains as cited in the ESA.

Although JCI considered (identified in their PHA) a number of possible Alternative Release Scenarios as described in 68.28(b)(2)(i-v), they failed to analyze (using an appropriate modeling technique) any of the scenarios and use the results to pick an Alternative Release Scenario with off-site impacts. As a result:

JCI failed to identify and analyze reasonable release scenarios described in their PHA. The deficiency remains as cited in the ESA.

JCI considered but did not use the Alternative Release Scenarios identified in their PHA to select a scenario. As a result:

JCI did not consider "the failure scenarios identified under 68.67" in selecting the alternative release scenarios [68.28(e)(2)] and the deficiency remains as cited in the ESA.

JCI did not identify and analyze reasonable release scenarios that were more likely to occur than worst-case release scenarios; JCI said no such scenario existed. As a result:

JCI failed to provide a description of the scenarios identified; assumptions and parameters used, the rationale for the selection of specific scenarios, and anticipated effect of the administrative controls and mitigation on the release quantity and rate [68.39(b)]. The deficiency remains as cited in the ESA.

## **Prevention Program- Process Safety information**

JCI, in its letter dated 2/17/05, documented information pertaining to technology of the process with respect to the following areas; Process Safety Information: §68.65(d)(1)(iii, v, vii, & viii).

Note that all the PSI documents received were titled as part of "Process Safety Information, Compliance Audit" and were not dated. The Compliance Audit (dated 1/30/02) received by EPA on 8/23/04 is in a standard checklist format and does not include this detailed, site specific information. It is not clear exactly what document contains this PSI information. There is no indication "when" these documents were created. All four documents speak to the JCI Tacoma facility.

"Electrical Classification" component of our Process Safety Information as required by 68.65(d)(1)(iii),

"Ventilation System Design" component of our Process Safety Information as required by 68.05(d)(1)(v),

"Material and Energy Balances" component of our Process Safety Information as required by 68.65(d)(1)(vii), and

"Safety Systems" component of our Process Safety Information as required by 68.65(d)(1)(viii).

The Safety Systems document appears to be generic PSI information since it references sulfur dioxide processing and sulfur dioxide rail cars, neither of which operations is present at the JCI Tacoma facility.

The same document states that "The plant is equipped with strategically located chlorine and sulfur dioxide leak detectors. These detectors are located in ton and cylinder production areas as well as storage areas." Item 29 in Table 12.a.1 also address multiple sensors. These statements appear to contradict the inspection notes which state that the chlorine sensor at the 150 pound cylinder filling station is the only one in the building.

All this aside, JCI has met the literal meaning of sections 68.65(d)(1)(iii, v, vii, & viii) and the deficiencies cited in the ESA are not applicable.

## **Process Hazard Analysis**

### **Facility Siting**

With respect to existing plants, "siting" refers to the location of various components within the establishment. JCI notes in Section 2.7 of their PHA that facility siting "pertains to the requirement to consider the location of the covered processes . . . relative to the potential impact on both onsite and offsite receptors . . . the risks associated with the release . . . from these processes." JCI states that "These factors were considered in the development of the Worst and Alternative Case Scenarios . . . and are discussed in detail in the JCI Tacoma Branch's Risk Management Plan."

Verification that facility siting has been considered requires the review of calculations, charts, and other documents used in the preparation of the off-site consequence analysis scenarios.

As noted in the comments on the Alternative Release Scenario (Section 68.28, above) JCI failed to analyze [calculate/document] any of the scenarios described in the PHA and use the results to pick an Alternative Release Scenario with off-site impacts. There is no evidence that Facility Siting was considered in the scenarios (since there aren't any scenarios).

In another example of not considering facility siting in the PHA or Hazard Assessment process, JCI's RMP cites "Earthquakes" as a "Major Hazard Identified" and Table 12.a.9 states that "The State of Washington is on a fault line . . . potential [exists] for seismic activity of substantial magnitude." However, the PHA makes no recommendations based on a statement to the effect that "flex connections" are on lines that carry hazardous product to production facility." There appears to be no consideration of the numerous other points throughout the covered process which do not have the capability to "flex" during a seismic event. As a result:

JCI's PHA did not address Stationary Source Siting identified under 68.67(c)(5) in selecting the alternative release scenarios [68.28(e)(2)] and the deficiency remains as cited in the ESA

The PHA did not address an evaluation of a range of the possible safety and health effects of failure of controls [68.67(c)(7)]. In order to evaluate a range possible safety and health effects of failure of controls (e.g., failure of the control system for automated shut down valves) a consequence analysis would have to be carried out. Off-Site consequence analysis was not carried out (as described in the section above which cites deficiencies in the Hazard Assessment process). As a result:

JCI's PHA did not address an evaluation of a range of the possible safety and health effects of failure of controls identified under 68.67(c)(7) and the deficiency remains as cited in the ESA

JCI did establish a system to promptly address the PHA team's findings and recommendations; assured that the recommendations are resolved in a timely manner and documented; documented what actions are to be taken; completed actions as soon as possible; developed a written schedule of when these actions are to be completed; and communicated the actions to operating, maintenance, and other employees whose work assignments are in the process and who may be affected by the recommendations [68.67(e)]. Unfortunately there were only three recommendations made by the PHA team and they dealt with two security issues (lighting and cameras) and one "release related" concern (wind socks). There were no other recommendations based on JCI's review of approximately 170 What-If/Consequence statements. As a result:

JCI has met the literal meaning of sections 68.67(e) and the deficiency cited in the ESA is not applicable.

## **Training**

JCI, in their letter dated 2/17/05, has provided documentation and supplemental information that addresses:

68.71(a)(1) - records for employee initial training (either involved in operating a process or before being involved in operating a newly assigned process) in an overview of the process and in the operating procedures.

68.71(b) - records of refresher training provided at least every three years, or more often if necessary, to each employee involved in operating a process to ensure that the employee understands and adheres to the current operating procedures of the process.

68.71(c) - documentation that each employee involved in operating a process has received and understood the training required.

68.71(c) - documents that contain the identify of the employee, the date of the training, and the means used to verify that the employee understood the training.

JCI has provided documents which indicate that they have met the requirements of sections 68.71(a)(1), 68.71(b) and 68.71(c) [2 counts] and the deficiencies cited in the ESA are not applicable.